

REMARKS

The present response is intended to be fully responsive to the rejection raised by the Office Action and is believed to place the application in condition for allowance. The Applicants, however, do not acquiesce to any of the Office Action rejections not particularly addressed. Favorable reconsideration and allowance of the application is respectfully requested.

Claimed Invention

The present application includes 36 pending claims, namely claims 31-66. Of these claims 31, 34, 37, 49, 56, 60, 62, 64 and 65 are independent format. Claim 60, which provides an exemplary claim of the present application, recites a method for providing dynamic services in a data communication system. In its preamble, claim 60 recites "in a data communication system that includes a plurality of network devices, [] the plurality of network devices includes first and second network devices, and [] during initialization, communication system resources for carrying out session-based services are registered with and allocated by the second network device."

The method of claim 60 provides dynamic services comprising the steps of:

(i) the first network device sending to the second network device a service request to activate at least one deferred-session-based service between a service server associated with the second network device and a service device associated with the first network device, wherein each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices, and wherein the service request includes a deferred-inactive-service identifier that is registered with the second network

device during initialization and associated with at least one deferred-session-based service;
and

(ii) the first network device receiving from the second network device a service notification from the service server indicating that the at least one deferred-session-based service has been activated, wherein when the at least one deferred-session-based service is activated, a communication link is established between the first and second network devices, and wherein the communication link utilizes parameters associated with the plurality of capabilities of the first network device used for carrying out the at least one deferred-session-based service.

As part of the claimed invention, each pending claim in one way or another contains an element directed to the at least one deferred-session-based service. That is, in each of the claims the deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices. In addition, each pending claim contains an element directed to establishing or terminating a communication link between the first and second network devices, wherein the communication link utilizes parameters associated with the plurality of capabilities of the first network device for carrying out the at least one deferred-session-based service.

Section 102 Rejection

In the Office Action, the Examiner rejected Claims 31, 32, 34, 35, 37-45, 49-53, and 60-66 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,223,222 granted to Fijolek et al.

("Fijolek").. The Applicants respectfully traverse the Examiner's rejections based on the following Section 102 Remarks.

Section 102 Remarks

The Applicants respectfully submit that the claims as amended are not anticipated by *Fijolek* because such reference does not show, describe or disclose, explicitly or inherently, the combination of elements of claims 31-66. The Examiner cites *Fijolek* for the proposition that it "teaches a registration process for a cable modem in a data-over-cable system for enabling quality-of-service identifiers." The Examiner also cites *Fijolek* for the proposition that it "teaches during initialization the cable modem registering Class of Service (CoS) and Quality-of-service (QoS) parameters with the CMTS." The Examiner then states that "the CoS and QoS are not necessarily activated but identified for a later time, as shown in Figure 19, which permits a cable modem to at a later time make a QoS request.

From this, the Examiner concludes that *Fijolek* "teaches, during initialization, receiving parameters associated with a plurality of capabilities used for carrying out at least one deferred session-based service between at least one service device and the cable modem." The Applicants note, however, the Examiner has not addressed the element(s) of the claims directed to "a deferred-session-based service compris[ing] a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated."

The Applicants as well as *Fijolek* recognize that during registration (via negotiation with a first device, e.g., a cable modem) a second device, e.g., a CMTS, registers **and** allocates or "grants" (that is, reserves) the resources of the data-over-cable system to carry out session-based services, e.g., quality-of-service connections. For instance, the abstract of *Fijolek* explicitly states that "[t]he

quality-of-service server using DHCP messaging provides a standard and efficient process to reserve bandwidth for quality-of-service connections in a data-over-cable system." See also the background of the present application (e.g., page 5, line 10 to page 6, line 19), and *Fijolek* at col. 29, lines 59-67, and cols 33-37.

5 In addition to the abstract, the Applicants direct the Examiner to Figure 19 of *Fijolek* and its description starting on line 35 of col. 33, which is reproduced below.

10 "FIG. 19 is a flow diagram illustrating a method 336 for providing quality-of-service for a network device in a data over-cable-system. Method 336 includes receiving a request on a first network device from a second network device to establish a connection between the second network device and a third network device with a specific quality-of-service at step 338. The quality-of-service request includes bandwidth for CoS, QoS and other parameters. The first network device determines whether the second network device has enough available bandwidth to establish the connection to the third network device with the specific quality-of-service requested at step 340. The bandwidth determination includes a bandwidth determination required for CoS, QoS and other parameters. If the first network device has enough bandwidth to establish the connection to the third network device with the specific quality-of-service at step 340, a bandwidth required for the specific quality-of-service is subtracted from an available bandwidth for the second network device at step 342. At step 344, a quality-of-service identifier is assigned to the specific quality-of-service bandwidth requested. The quality-of-service identifier is assigned based on bandwidth required CoS, QoS and other parameters. The assigned quality-of-service identifier is saved on the first network device at step 346. The assigned quality-of-service identifier is sent to the second network device indicating the second network device has enough bandwidth to allow the connection with the specific quality-of-service requested at step 348. If the first network device does not have enough available bandwidth to establish the connection to the third network device with the specific quality-of-service requested by the third network device at step 340, a rejection is sent to the first network device at step 350" (emphasis added).

20 The present claims reflect that deferred-session-based services are different from the quality-of-service services described by *Fijolek*. As claimed, each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later

activated, and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices.

In light of the discussion above, the Applicants submit that *Fijolek* does not anticipate claims 31-66. Some of the claims 31-66 are dependent claims, and as such, they necessarily include the elements of the independent claims from which they depend.

Section 103 Rejections

In the Office Action, the Examiner rejected Claims 33, 36, 46, 48, 54, and 56-58 under 35 U.S.C. 103(a) as being unpatentable over *Fijolek* and the Examiner's Official Notice. Further, the Examiner rejected Claims 55 and 59 under 35 U.S.C. 103(a) as being unpatentable over *Fijolek* in view of U.S. Patent No. 6,337,858 to Petty et al ("*Petty*"). The Applicants respectfully traverse the Examiner's rejections of Claims 33, 36, 46, 48, and 54-59 based on the following Section 103 Remarks.

Section 103 Remarks

Under 35 U.S.C. § 103, to support the conclusion that the claimed invention is directed to obvious subject matter, a reference must expressly or impliedly suggest the claimed invention. *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). The arguments from Section 102 Remarks are incorporated herein by reference. The Applicants submit that the *Fijolek* reference, the Examiner's Official Notice and the *Petty* reference, alone or in combination, do not expressly or impliedly teach or suggest all the elements of the amended claims.

In particular, the Applicants submit that these references do not teach the at least one deferred-session-based service as claimed. Each of the at least one deferred-session-based service comprises a service in which communication system resources are registered with, but not allocated by the second network device until the at least one deferred session-based service is later activated,

and activation of the at least one deferred-session-based service is operable to occur after a session is established between the first and second devices. Thus, either alone or combined, the *Fijolek* reference, the Examiner's Official Notice and the *Petty* reference do not teach or suggest the claimed invention. Consequently, the Applicants submit that claims 33, 36, 46, 48, and 54-59 are allowable.

5 Claim Amendment

Claim 65 has been amended for a grammatical error. Support for this amendment may be found throughout the specification, and in particular on pages 8-10 and 64-77. No new matter has been added.

Conclusion

10 As noted in the background of the present application, allocating communication system resources when registering session-based services has several drawbacks. For instance, a first network device, such as a cable modem, typically requires a session for a voice call (e.g., a Voice over Internet Protocol call). A session, however, is typically created once during a login and registration sequence, and not changed as long as the network device is "powered on." Thus, the
15 first network device would have to be power cycled (i.e., powered off and then back on) for each session, which is would be a major inconvenience if a user had to do so for each voice call.

An alternative solution, as described in *Fijolek*, is to allow a second network device to allocate communication system resources whether or not the network device is actually using a requested service. Such a solution, however, is a waste of communication system resources, and prevents
20 other network devices from using resources that are allocated, but are not currently being used.

Furthermore, authentication, authorization or accounting are usually required when a service session is created. If a requested service requires additional service agreements, which is often the case with services adjunct to the communication system, then additional authentication, authorization

or accounting has to be completed. Unfortunately, the authentication, authorization or accounting is typically associated with a login request when initiating a service session. Therefore, requesting additional services after a service session is established may (i) prevent authentication, authorization or accounting from being properly used, (ii) compromise the security of the data-over-cable system, and/or (iii) prevent the data-over-cable system from collecting revenues it is owed for providing access to the service.

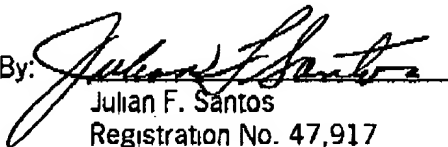
By registering, but not allocating communication system resources, the presently claimed invention allows the first network device to establish a new session without having to power cycle the first network device. Further, the communication system resources are not wasted by allocation during registration, but rather, the presently claimed invention allows deferred-session-based services to use the communication services when needed. The deferred-session-based services provide the ability to activate session-based services and also allow authentication, authorization or accounting to be dynamically used after a session has already been established by a network device.

In light of the foregoing, the Applicants submit that the application is in good and proper form for allowance, and respectfully request the Examiner to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney, at 312-913-3304.

Respectfully submitted,

McDONNELL BOEHNEN
HULBERT & BERGHOFF LLP

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By: 
Julian F. Santos
Registration No. 47,917